



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
09/801,201	03/07/2001	John L. Lautzenhisler	212-02US:0103	4024		
45920	7590	06/27/2008	EXAMINER			
WENDELL E. MILLER, PATENT AGENT 1506 TIPPECANOE DRIVE, D-1 WARSAW, IN 46580			NGUYEN, NAM V			
ART UNIT		PAPER NUMBER				
2612						
MAIL DATE		DELIVERY MODE				
06/27/2008		PAPER				

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/801,201	LAUTZENHISER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Nam V. Nguyen	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 March 2008.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5,9-17,19,31-52,62,63 and 74-95 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5, 9-16, 31-42, 47, 50-52, 62-63 and 74-95 is/are rejected.
- 7) Claim(s) 17,19,43-46,48 and 49 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ .  | 6) <input type="checkbox"/> Other: _____ .                        |

**DETAILED ACTION**

This communication is in response to applicant's Amendment which is filed March 31, 2008.

An amendment to the claims 1-4, 9, 50 and 63 has been entered and made of record in the application of Lautzenhiser et al. for a "rate-of-change switches and controllable apparatus" Filed March 7, 2001.

Claims 1-5, 9-17, 19, 31-52, 62-63 and 74-95 are now pending in the application.

***Response to Arguments***

The indicated allowability of claims 36-49 and 76-80 is withdrawn in view of the newly discovered reference(s) to Allen et al. (US# 5,749,372). Rejections based on the newly cited reference(s) follow.

Applicant's amendment and arguments, see page 13 to page 16, filed March 31, 2008, with respect to Claims 1-5, 9-17, 19, 31-35, 50-52, 62-63 and 74-75 and 81-95 have been fully considered and are persuasive. The rejection of Claims 1-5, 9-17, 19, 31-35, 50-52, 62-63 and 74-75 and 81-95 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in Allen et al. (US# 5,749,372).

***Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 11-12 and 74-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, the phrase “further comprises means” is confusing and unclear. It is not understood what is meant by such a limitation. Is this the same "means" in step (d) of Claim 4 or another "means". Examiner believes that it is the same “means” with different output signal function.

In claims 74-75, the phrase “further comprises means” is confusing and unclear. It is not understood what is meant by such a limitation. Is this the same "means" in step (b) of Claim 63 or another "means". Examiner believes that it is the same “means” with different output signal function.

In claims 11-12, the phrase “differentiating said output signal a second time” is confusing and unclear. It is not understood what is meant by such a limitation. Will differentiating said output signal a second time result would be the same as differentiating the output signal the first time because differentiating the same “output signal”. Examiner believes that claim should be a

second differentiating a second signal a second time and said performing step comprises said first switching function in response to said second differentiating.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9-16, 31-42, 47, 50-52, 62-63, 74 and 76-95 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al. (US# 5,749,372).

Referring to claims 1 and 62, Allen et al. disclose an apparatus for accurate and convenient feedback to a user concerning activity level performance as recited in claim 1. See Figures 1 to 5 and respective portions of the apparatus and method.

Allen et al. disclose an activity monitor (10) (i.e. a switch) comprises: a piezoelectric transducer device acting as a sensitive orientation sensor (14) (i.e. tilt-sensitive transducer) that produces an output signal in response to a user's activity (i.e. a user input) (column 2 lines 60 to 67; column 7 line 32 to column 8 line 11; see Figures 1A and 5A-C);

an amplifier/detector (24) connected to an analog/digital converter (22) (i.e. a differentiator) adapted to receive to said output signal from the sensor unit (14) (column 4 lines 15 to 23; see Figure 1A); and

a control unit (12) (i.e. means), connected to said amplifier/detector (24) connected to an analog/digital converter (22) for performing an audible feedback (i.e. a first switching function) (column 4 lines 49 to 67; column 6 lines 22 to 66; see Figures 1 to 5).

Referring to Claims 2-3, Allen et al. disclose the switch as claimed in Claim 1, in which said sensitive orientation sensor (14) (i.e. said tilt-sensitive transducer) comprises a transducer that produces an output signal proportional to said input (column 2 lines 60 to 67; column 7 line 43 to column 8 line 11; see Figures 5A-C);

Referring to claims 4, 9, 15-16, 31, 50-51, 81, 85 and 89, Allen et al. disclose a method and an activity monitor (10) (i.e. a switch) comprises:

a piezoelectric transducer device acting as a sensitive orientation sensor (i.e. tilt-sensitive transducer) that produces an output signal in response to a user's activity (i.e. a user input) (column 2 lines 60 to 67; column 7 line 43 to column 8 line 11; see Figures 1A and 5A-C);

an amplifier/detector (35) connected to an analog/digital converter (22) (i.e. a first differentiator) adapted to receive to said output signal from the sensor unit (14) (column 4 lines 15 to 23; see Figure 1A);

an amplifier/detector (36) connected to an analog/digital converter (22) (i.e. a second differentiator) adapted to receive to said output signal from the sensor unit (15) (column 4 lines 15 to 23; see Figure 1B); and

a control unit (12) (i.e. means), connected to said amplifier/detector (24) connected to an analog/digital converter (22) for performing an audible feedback (i.e. a first switching function) based on sense acceleration in direction parallel to either longitudinal axis or orthogonally oriented longitudinal axis (i.e. rate-of-change) (column 4 lines 42 to 67; column 7 lines 43 to 56; column 8 line 60 to column 9 line 8; see Figures 1 to 5).

Referring to Claim 76, Allen et al. disclose the method, to the extent as claimed with respect to claim 4 above, and the device further including: a sub-step (46) and determination of whether the user's motion has reach or exceeded a minimum level of acceleration (i.e. preventing variations in said output signal), if not exceeded threshold level then no feedback (i.e. from performing said switching functions) and continued monitoring activity (column 5 line 65 to column 6 line 30; see Figures 2 and 3).

Referring to Claim 5, Allen et al. disclose the switch as claimed in Claim 4, which further comprises means, connected to said first differentiator, for performing a video output signal on visual display counter units (18 and 19) (i.e. a second switching function) (column 4 lines 15 to 23; column 6 lines 58 to 66; see Figure 1A).

Referring to Claims 10, 82 and 86, Allen et al. disclose the switch as claimed in Claims 76, 81 and 85, in which said producing step comprises: attaching a transducer to a person; and body-member actuating said transducer (column 7 lines 57 to 65; see Figure 4).

Referring to Claims 11-12, Allen et al. disclose the switch as claimed in Claim 9, in which said method further comprises differentiating said output signal a second time; and said performing step comprises performing said first switching function in response to said second differentiating step (column 4 lines 42 to 67; column 9 lines 23 to 45).

Referring to Claims 13-14, 32-33, 52, 63, 74, 92-94, Allen et al. disclose the switch as claimed in Claims 9, 31 and 50, in which said method further comprises: performing said first switching function when said output signal is increasing; performing a second switching function when said output signal is decreasing; and producing a logic output as a function of both of said switching functions (column 3 lines 57 to column 4 line 14; column 6 line 58 to column 7 line 5; see Figures 2-3).

Referring to Claims 34, 37 and 90-91, Allen et al. disclose the method as claimed in Claims 31, 76 and 89, in which said method further comprises controlling a control unit (10) (i.e. an apparatus) in response to said output signal of A/D (22) (column 4 lines 14 to 23; column 7 lines 57 to 65; see Figure 4).

Referring to Claim 35, Allen et al. disclose the method as claimed in Claim 31, in which said method further comprises activating control of audio output unit (16 or video output units) (i.e. any apparatus) in response to said output function (i.e. a switching function) (column 6 lines 31 to 50; column 9 line 59 to column 10 line 15).

Referring to Claims 77-78, Allen et al. disclose the method as claimed in Claim 76, in which said producing step comprises actuating an input (column 3 lines 57 to 66; column 7 lines 33 to 42; see Figures 4 and 5).

Referring to Claims 79, 83 and 87, Allen et al. disclose the method as claimed in Claims 76, 81 and 85, in which said performing step further comprises selectively adjusting said predetermined rate-of-change of said output signal (column 7 lines 43 to 56).

Referring to Claims 80, 84, 88 and 95, Allen et al. disclose the method as claimed in Claims 76, 81, 85 and 89, in which said performing step comprises differentiating said output signal (column 4 lines 42 to 67; column 8 lines 12 to 29).

Referring to Claims 36, 38, 40-41, Allen et al. disclose the method as claimed in Claim 76, in which said method further comprises activating control of audio output unit (16 or video output units) (i.e. any apparatus) in response to said output function (i.e. a switching function) (column 6 lines 31 to 50; column 9 line 59 to column 10 line 15).

Referring to Claim 39, Allen et al. disclose the method as claimed in Claim 76, in which said method further comprises:

If activity level reach or exceed intensity level, the generating an output beep (i.e. activating control of an apparatus in response to said switching function being performed inside a window of opportunity); and if activity level does not reach or exceed intensity level generating no feedback to the user (i.e. aborting said activating step in response to said switching function being performed outside said window of opportunity) (column 4 lines 37 to 67; see Figures 2 and 3).

Referring to Claim 42, Allen et al. disclose the method as claimed in Claim 76, in which said method further comprises: activating a selected one of a first or a second apparatus in response to performing said switching function during a window of opportunity; and proportionally controlling a function of said selected apparatus as a function of said proportional output signal (column 4 lines 42 to 67; column 6 lines 22 to 30; column 9 lines 23 to 45).

Referring to Claim 47, Allen et al. disclose the method as claimed in Claim 76, in which said method further comprises initiating cascading a plurality of task opportunities; and said initiating step comprises performing said switching function (column 6 lines 31 to 66; column 8 line 60 to column 9 line 8; see Figures 2 and 3).

Art Unit: 2612

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable Allen et al. (US# 5,749,372) as applied to claim 63 above, and in view of Muller (US# 4,865,610).

Referring to Claim 75, Allen et al. disclose the switch as claimed in Claim 63, in which said method further comprises: performing said first switching function in response to a predetermined rate-of-change of said output signal produced by user actuation of said transducer in the other of said directions (column 3 lines 57 to column 4 line 14; column 6 line 58 to column 7 line 5; see Figures 2-3). However, Allen et al. did not explicitly disclose means for producing a third switching function.

In the same field of endeavor of devices for controlling apparatus, Muller et al. teach that output signals according to the X and Y directions (column 3 lines 55 to 68; column 6 lines 57 to column 7 line 3) in order to processed into the data necessary and suitable for the control of complex appliances.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a method of generating plurality of output signals according to the X and Y direction to create unlimited number of signals taught by Muller in the method for monitoring activity and providing feedback to a user concerning activity level performance of

Art Unit: 2612

Allen et al. because producing plurality of output signals according to the direction of movement would improve unlimited number of signals to processed into the data necessary and suitable for the control of complex apparatuses.

### **Claim Objections**

Claims 17, 19, 43-46 and 48-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claim 17, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that refraining from said momentary-contact switching step during a second time delay that follows said window of opportunity; and initiating operation of a first electrical device subsequent to successful completion of the preceding steps.

Referring to claim 43-44, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that activating a selected one of a first or a second apparatus in response to performing said switching function during a window of opportunity; selecting a function of said selected apparatus to be controlled; and said selecting step comprises performing other switching function.

Referring to claim 45-46, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that initiating cascading a plurality of task opportunities; selecting a task; and said selecting step comprises performing said switching function.

Referring to claim 48-49, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that initiating cascading a plurality of task opportunities; and said initiating step comprises performing said switching function; selecting a task; and said selecting step comprises performing an other switching function.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heidel et al. (US# 4,531,300) disclose an electronic inclination gauge with acceleration compensation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 571-272-3061. The examiner can normally be reached on Mon-Fri, 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Brian Zimmerman can be reached on 571- 272-3059. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Nam V Nguyen/  
Examiner, Art Unit 2612

/Brian A Zimmerman/  
Supervisory Patent Examiner, Art Unit 2612